

REMARKS

Claims 9-13 are pending in this application. By this amendment, claims 1-8 and 15-26 are cancelled without prejudice to or disclaimer of the subject matter contained therein, and claim 9 is amended to correct a minor typographical error. Applicants reserve the right to file one or more divisional application to pursue the non-elected claims 1-8 and 15-26. Reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) merely cancel non-elected claims and correct an obvious typographical error; (b) place the application in condition for allowance (for the reasons discussed herein); (c) do not raise any new issue requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution); (d) satisfy a requirement of form asserted in the previous Office Action; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

The Office Action rejects claims 9-13 under 35 U.S.C. §112, second paragraph. By this Amendment, claim 9 has been amended to correct the stated typographical error. Accordingly, Applicants respectfully request that the rejection of claims 9-13 under 35 U.S.C. §112, second paragraph, be withdrawn.

The Office Action rejects claims 9-11 and 13 under 35 U.S.C. §103(a) over U.S. Patent 6,110,660 to Kriz et al. in view of U.S. Patent 5,978,694 to Rapoport. Applicants respectfully traverse the rejection.

In particular, Applicants submit that the combination of applied references fails to suggest or disclose a method of performing a binding assay by determining the number of

magnetic particles bound to a substrate, the method comprising immobilising a layer of molecules to a substrate, providing a number of magnetic particles as labels, performing a reaction using the molecular layer so as to bind at least some of the magnetic particles to the substrate and determining the number of magnetic particles bound to the substrate by determining the difference in the resonant frequency of a tuned circuit when the substrate is exposed to a magnetic field generated by a coil and when the substrate is not exposed to the magnetic field generated by the coil, wherein the tuned circuit is connected to a phase locked loop comprising a driver which generates a driving signal for driving the tuned circuit and a phase comparator for determining the phase difference between the driving signal and an output signal obtained from the tuned circuit, the difference in resonant frequency being determined by monitoring the performance of the phase locked loop, as recited in claim 9.

Kriz et al. instead teaches a procedure for quantitative and qualitative determination of chemical substances, based on molecular recognition and measurement of magnetic permeability. In Kriz et al., the magnetic permeability of a material inside a coil influences the inductance of the coil. Thus it is possible to detect changes in magnetic permeability using inductance measurements. To measure the inductance, and thus indirectly the relative magnetic permeability, the coil can be placed in the Maxwell bridge. Kriz et al. teaches that the inductance can be measured in several different ways such as for example by placing the coil in an electrical measuring bridge such as a Maxwell bridge, by measurement of the resonance frequency for an LC-circuit of which the coil is a part, by applying a potential pulse and measuring the current response, by applying a current pulse or a non-constant current while monitoring the potential response by inductive coupling between two coils and by measurement of the coils impedance. See column 6 line 57 to column 7 line 6 of Kriz et al.

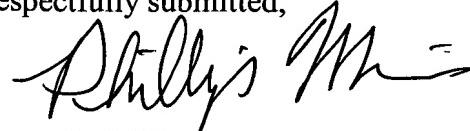
Rapoport teaches a method and apparatus for detecting a magnetically responsive substance. The Office Action asserts that the first electrical conductor or coil of Rapoport is equivalent to the phase-locked loop of claim 9. However, Applicants respectfully submit that claim 9 recites a coil in addition to a phase-locked loop. As specified in claim 9, the difference in the resonant frequency of a tuned circuit is measured when the substrate is exposed to a magnetic field generated by a coil and when the substrate is not exposed to the magnetic field generated by the coil. The claim further specifies that the tuned circuit is connected to a phase-locked loop which comprises a driver which generates a driving signal for driving a tuned circuit and a phase comparator for determining the phase difference between the driving signal and an output signal obtained from the tuned circuit, the difference in resonant frequency being determined by monitoring the performance of the phase-locked loop. There is no suggestion or disclosure in either Rapoport nor Kriz et al. of a phase-locked loop connected to a tuned circuit which is exposed to a magnetic field generated by a coil. Therefore, Applicants respectfully submit claims 9-11 and 13 are patentable over the combination of Kriz et al. and Rapoport. Accordingly, Applicants respectfully request that the rejection of claims 9-11 and 13 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claim 12 under 35 U.S.C. §103(a) as unpatentable over Kriz et al. and Rapoport in view of U.S. Patent 5,679,342 to Houghton et al. Applicants respectfully traverse the rejection. In particular, Applicants submit that Houghton et al. fails to supply the deficiencies of Kriz et al. and Rapoport as discussed above. Accordingly, Applicants respectfully request that the rejection of claim 12 under 35 U.S.C. §103(a) be withdrawn.

Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 9-13 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Phillip D. Mancini
Registration No. 46,743

JAO:PDM/jcp

Date: July 17, 2003

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE
AUTHORIZATION
Please grant any extension
necessary for entry;
Charge any fee due to our
Deposit Account No. 15-0461